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January 8, 2001

The Honorable Russell D. Feingold
United States Senate

Subject: Defense Trade: The Use of Intellectual Property Generated at Department
of Energy's Laboratories to Satisfy Offset Requirements

Dear Senator Feingold:

Offsets are benefits that defense contractors provide to foreign governments as inducements or conditions for the countries to purchase military goods and services. Offsets can include a wide range of goods and services, including the transfer of U.S. developed technology or training assistance provided to companies and organizations located in foreign countries. The Department of Commerce reported that for the 5-year period from 1993 to 1997, U.S. defense contractors reported about 230 new offset agreements valued at \$19 billion.¹

Because of your interest in identifying emerging trends in the use of offsets, you asked us to make inquiries concerning the use by defense contractors of intellectual property generated at the Department of Energy's laboratories to satisfy their offset requirements.² Specifically, you asked us to identify (1) the use of intellectual property and services of laboratory personnel to satisfy defense contractors' offset requirements and (2) the rights that U.S. contractors that manage Department of Energy laboratories have to intellectual property generated at these laboratories. Based on discussions with your staff on November 2, 2000, we are also providing information as to how the laboratories compute charges for their intellectual property and services. This letter summarizes the results of our work.

LIMITED USE OF LABORATORIES' INTELLECTUAL PROPERTY AND OTHER
SERVICES TO SATISFY OFFSET REQUIREMENTS

The use of Department of Energy laboratories' intellectual property and services to satisfy defense contractors' offset requirements has been limited. Our discussions with Department of Energy and laboratory management contractor officials surfaced 14 instances from as early as 1995, all at one laboratory, where the laboratory's intellectual property and services were involved in offset projects. The 14 instances, valued at about \$200 million, involved 4 intellectual property licenses and 10 service arrangements through which laboratory

¹ The actual costs of offsets to the U.S. contractors are substantially lower than the total value of the offset requirements.

² Intellectual property includes, among other things, patents and copyrights protected by federal law.

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personnel performed training, workshops, and other services for various foreign countries. The following provides further information on the 14 projects.³

- The 4 projects with intellectual property licenses included two patents for cryogenic cutting/cleaning technologies and two copyrights for software applications and training. The cryogenic technology was developed for cutting and abrading materials using liquid nitrogen forced through a high-pressure nozzle. The use of liquid nitrogen eliminates the problem of adding other waste by-products generated during the cutting and abrading processes. The software applications and training were for (1) improving logistics management within the country's Ministry of Defense and (2) assisting the country in conducting safety analyses of nuclear power plants.
- The 10 service agreements pertained to nuclear power plant safety and environmental issues. For example, laboratory personnel provided training in the inspection of nuclear power plants using non-destructive means, which permits inspection without having to disassemble equipment at the power plants. In another example, training was provided on converting waste generated by nuclear power plants into relatively harmless by-products. As one last example, technical expertise was provided to a foreign country to design a waste treatment plant to convert raw sewage into energy.

In addition to the 14 offset projects, we were informed by three other laboratories of other offers to use the laboratories' intellectual property and services of laboratory personnel to meet potential offset requirements. These offers did not result in specific projects because the weapon system sales did not take place. They involved assisting countries with (1) the removal of unexploded ordnance from a site to be transferred from the military to the private/public sector, (2) humanitarian de-mining capability, and (3) the transfer of a state-of-the-art welding technology into the United States.

MANAGEMENT CONTRACTORS HAVE THE RIGHT TO INTELLECTUAL PROPERTY

Over the years, Congress has passed legislation to promote the transfer of technology from the federal laboratories to the private sector. For example, the National Competitiveness Technology Transfer Act of 1989 (Public Law 101-189) established technology transfer as a mission for government-owned, contractor-operated laboratories for purposes of transferring technology to the private sector. On the basis of this legislation and other applicable laws and regulations, contractors that manage Department of Energy laboratories under management and operating

³ Specific information about offsets are considered proprietary by U.S. contractors. As a result, offset information is provided in general terms, and contractors are not identified in this report.

contracts⁴ have the right to inventions and copyrights generated at the federal laboratories should they choose to take title.⁵ Contractors generally cannot obtain rights to intellectual property dealing with such matters as uranium enrichment or certain national security technologies.

COMPUTATION OF CHARGES FOR INTELLECTUAL PROPERTY AND SERVICES

Laboratory management contractor officials told us about the computation of charges for providing licenses and services to entities and organizations. For licenses, the charges are normally negotiated on a case by case basis and consider several factors such as the market value of the technology; the investment required to bring the technology to market; the financial status of the licensee; and the income potential for the technology, assuming that it is successful. For service arrangements, the laboratory is to recover the full cost of providing the services, including the hourly wages for personnel and their associated travel costs, if applicable. Unless waived in accordance with a Department of Energy order, the laboratory is to recover a certain percentage of administrative costs associated with laboratory facilities and equipment. The charges for providing licensing and other services by the laboratory are normally paid by the entity that has sponsored these projects. For example, we were told that the defense contractor that sponsored the 14 projects previously discussed paid these charges for most projects.

AGENCY COMMENTS

The Department of Energy provided technical comments on the information presented in this report. We have included those technical comments as appropriate. The Department's comments are included in enclosure 1.

SCOPE AND METHODOLOGY

To determine the use of the laboratories' intellectual property and services of laboratory personnel to satisfy defense contractors' offset requirements, we spoke with Department of Energy officials and officials managing laboratories to identify situations where (1) defense contractors managed Department of Energy laboratories and (2) licenses and services were provided or offered to satisfy offset requirements. We gathered documents pertaining to offset projects.

To determine the rights that U.S. contractors that manage Department of Energy laboratories have to intellectual property generated at the laboratories, we reviewed legislation, regulations, and contract clauses dealing with technology transfers of intellectual property and other services. We also discussed these matters with Department of Energy and laboratory management contractor officials.

⁴ Management and operating contracts are agreements under which the government contracts for the operation, maintenance, or support of a government-owned, research, development, special production, or testing establishment wholly or principally devoted to one or more major programs of the federal agency.

⁵ The contractors must notify the Department within a specified period of time after discovery of the invention to elect title to that invention.

To determine how charges for intellectual property and services are computed, we spoke with laboratory officials about the various factors that are considered in computing the charges. We did not independently verify these charges.

We conducted our review from August to November 2000 in accordance with generally accepted government auditing standards.

We are sending copies of this letter to interested congressional committees and to the Honorable Bill Richardson, Secretary of Energy. The letter will also be available on GAO's home page at <http://www.gao.gov>. If you have questions, please contact me on (202) 512-4383.

Major contributors to this report were Robert L. Pelletier, Charles D. Groves, Jack G. Perrigo Jr., William T. Woods, and Raymond J. Wyrsh.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "Katherine V. Schinasi", is written over a horizontal line.

Katherine V. Schinasi
Director
Acquisition and Sourcing Management

Enclosure